

Amendments to the Specification

Pursuant to revised 37 CFR § 1.121(b), amendments to the specification must be made by presenting a replacement paragraph or section marked up to show changes made relative to the immediate prior version. Two versions (a clean version and a marked up version) of each replacement paragraph or section are no longer required. Pursuant to 37 CFR 1.121(f), no new matter has been added.

On page 2, line 10 through line 28 of the original specification, the following replacement paragraph is presented:

During an electrical storm, the electrostatic field will induce a charge on both the tank and the contained product. Lightning dissipaters will discharge both the tank and the product for most situations. However, if the tank has a large diameter, the storm cell contains an unusually large charge, the product near the center will not be completely discharged. If the shunts are not in perfect contact with the tank wall, the “bound charge” will create an arc when that storm cell is discharged by a nearby strike. Refer to the American Petroleum Institute (API) Recommended Practices RP2003 for details on the Bound Charge/Secondary Arc. Some companies have tried to use long wires that extend from the top of the tank down to the center of the floating roof. The problem with this technique is that the impedance of the wire is far too high to react within the time available to discharge a bound charge (about one microsecond ~~for the initial surge of current flow to rise to the peak; however the current flow lasts for an average of 20 microseconds~~). The average impedance of these connections is between 150 and 500 ~~ohms~~ 250 Ohms at lightning frequencies ~~depending on tank diameter~~.